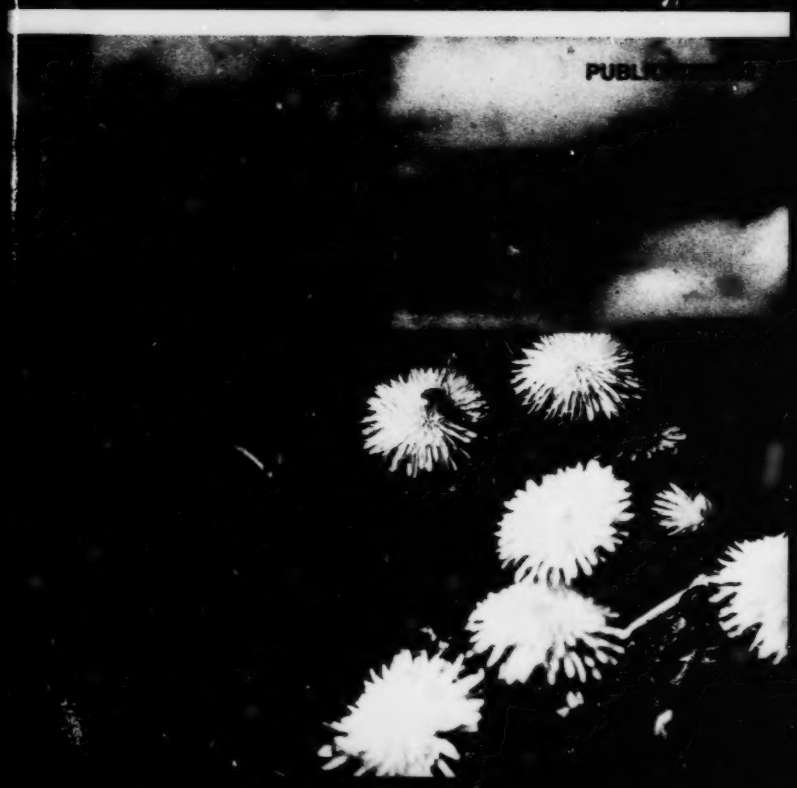

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NECTAR TREES, SHRUBS, AND HERBS OF ONTARIO

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INTRODUCTION

There is a need today to better utilize vacant land for forestry, wildlife and agriculture. Throughout Ontario, thousands of hectares of potentially productive land lie fallow under power lines and along road and railway allowances and right-of-ways. At present much of this land is an economic liability because of the cost of maintenance; weeds and underbrush are often sprayed with herbicides and silvicides and the remaining grasses mowed. There are also large areas of land that are submarginal for agriculture because the soil is shallow or swampy, but which are capable of producing some kind of agricultural, wildlife, or forestry crop. Both right-of-ways and submarginal lands have potential for honey production. Ornamental nectar trees, shrubs, and herbs could be planted along roads, highways and railways, as well as along hydro, gas and oil line corridors and on submarginal lands. Careful selection of competitive nectar species would enhance the control of undesirable weeds and reduce spraying costs. Other plants would, in addition to supplying nectar for honeybees, provide food and shelter for wildlife and forage for livestock, and aid in erosion control.

Little information has been compiled on the management and honey potential of native and exotic nectar trees, shrubs, and herbs that grow in Ontario. Correspondence with commercial beekeepers throughout the province, as well as ten years of investigation of nectar plants, has indicated a total of 30 trees, 29 shrubs and 40 herbs from 29 families that are excellent nectar producers. It is hoped that this publication will be useful not only to beekeepers who wish to evaluate apiary sites, but also to those conservationists who are concerned with using our land resources to their full capacity.

Purpose

The primary purpose of this publication is to acquaint commercial and hobby beekeepers of the actual and potential nectar trees, shrubs, and herbs capable of growing in a variety of habitats in the eight climatic zones of Ontario (Figure 1). Information on the average frost-free period of the climatic zones is described in Table 1. The information presented in tabular form on nectar-producing trees (Table 2), shrubs (Table 3), and herbs (Table 4) includes utility, climatic zone suitability, botanical features, site features, honey plant rating and honey characteristics. The honey plant rating for each species is presented as an aid in evaluating apiary sites in respect to available nectar plant species and is based on bee appeal, nectar yield, abundance, flowering, and competitiveness (see Appendix 1).

Nectar Trees

There are 30 excellent nectar-producing trees growing in Ontario, of which 33% are native to this province and the remaining 67% are exotics from the United States, Europe, and Asia. Approximately 80% are upland species and the remainder prefer lowland sites. All of the trees have at least one and sometimes two additional uses other than for nectar production, such as timber, landscaping, food and cover for wildlife, and rehabilitating denuded and eroded areas.

Nectar Shrubs

A total of 29 important shrubs growing in Ontario are presented here, of which 39% are native and the remaining 61% are exotics from the United States, Europe and Asia. Most prefer upland sites and only 28% are found on the lowlands. The bulk of the species serve primarily as ornamentals. However, some provide food and shelter for wildlife as well as vegetative cover for eroded areas.

Nectar Herbs

Herbs are the most important and dependable source of nectar in Ontario. Many form a natural cover in waste places, open swamps and eroded land; other herbs such as the clovers are grown commercially over large areas, and lastly, the nectar herbs are able to compete successfully with agricultural crops. There are 40 such herbs growing in Ontario of which 29% are native and 71% are exotics from the United States, Europe and Asia. Most of the nectar herbs prefer upland sites and only 23% are found in the lowlands. Over 35% are valuable for pasture, hay and grain, 41% serve as a natural cover in open areas and 24% are classified as weeds.

Nectar Productivity

Nectar productivity of a species is sometimes estimated as potential yield in **kilograms per hectare** (kg per ha), **pounds per acre** (lbs per ac.) under ideal conditions. We consider an estimate of this kind to be unrealistic for two reasons:

1. The idea of a large expanse of plants of a hectare or more is usually applicable only to honey plants which are cultivated as agricultural crops; and,
2. Estimates of absolute yield per ha are probably much too high.

Accordingly, nectar plants are rated in terms of relative productivity instead of absolute yield, using a scale of 1 to 3 (see Appendix 1). This index is based on information from various sources. Occasionally, where there is reason to be confident of the data, an estimate of potential kg/ha is also included. It must be stressed that even relative ratings are based on performance in the region where actual nectar measurements were made; this is usually a region where the species is well adapted to climatic and soil conditions. Results of nectar sampling in other regions cannot always be extrapolated with any assurance to Ontario because local conditions, particularly weather, are critical.

Flowering and Nectar Secretion

As the time when nectar is secreted is important, as well as the amount produced, approximate flowering dates have been included for each species. Some plants flower in early spring before honeybee populations are large enough to derive much benefit from their nectar. Moreover, weather at this time may be too cool for either nectar secretion or

honeybee flight. Where particular weather conditions are known either to favor or reduce nectar secretion, this is indicated. Wide day-to-day fluctuations in nectar yield due to weather are common. Generally warm, sunny weather (temperatures of 25 to 30°C), combined with an adequate supply of soil moisture, is ideal.

Honey Characteristics

Information on honey characteristics, if available, is also included. Only when a single species is abundant in one location can enough unifloral honey be obtained for characterization. The sugars glucose, fructose, and sucrose are the common major constituents of honeys, but the relative amounts of these sugars, which vary with the nectar source, affect honey characteristics. An unusually high fructose content, for instance, produces a sweeter than average honey. A high glucose content usually induces rapid granulation. The qualities that make a honey unique or distinctive — color, flavor, and aroma — are determined chiefly by minor constituents. Sometimes honey from a single source (e.g., purple loosestrife) may have an unpleasant flavor but this can be ameliorated by mixing it with honey from other sources.

Weed Species

Some herbaceous nectar plants are classed as weeds and a few as noxious weeds. With modern herbicide sprays, weeds are more easily controlled today than in pre-herbicide times. Nevertheless, landowners are required by the Ontario Weed Control Act (1974) to destroy noxious weeds on their property.

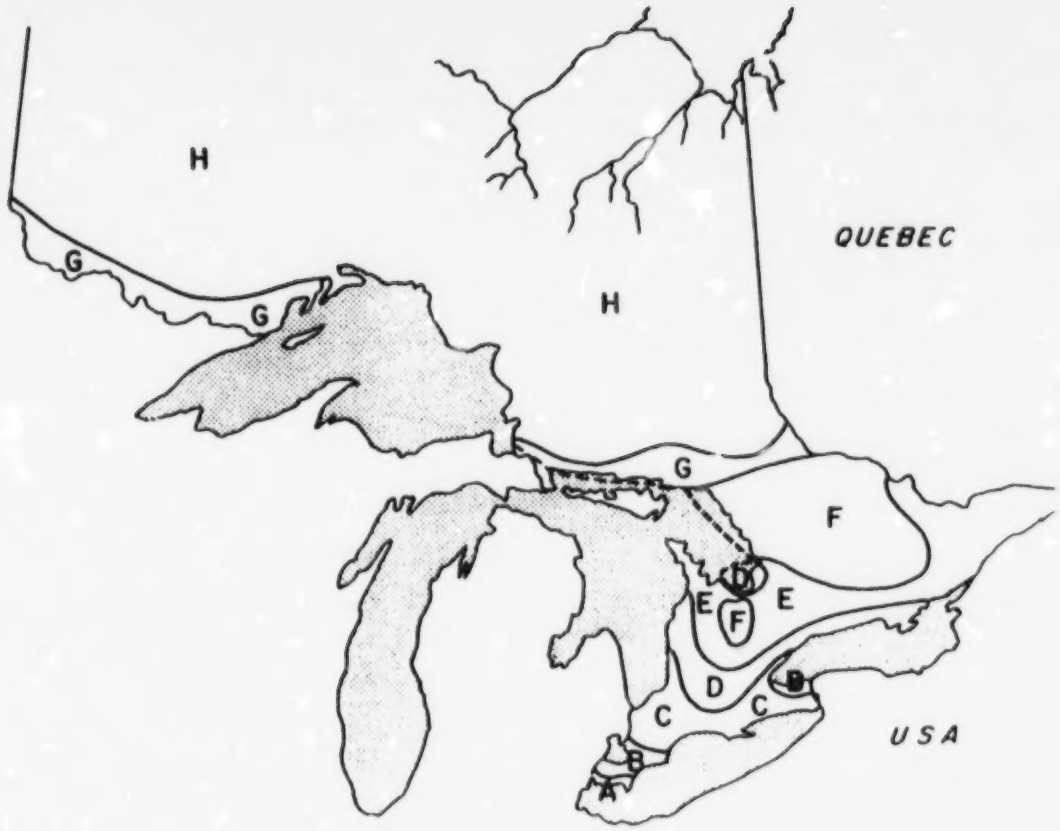

Figure 1. Climate zones of Ontario.

Table 1. Average frost-free period in the climatic zones of Ontario.

Zone	Average Frost Free Period (Days)	Average Date	
		Last Spring Frost	First Fall Frost
A	165 or more	1 May	13 October
B	155 - 165	8 May	10 October
C	150 - 155	11 May	7 October
D	140 - 150	15 May	2 October
E	120 - 140	22 May	25 September
F	110 - 120	1 June	17 September
G	95 - 110	8 June	12 September
H	95 or less	after 31 May	before 10 September

The references described in the following list will provide the reader with important information on natural regeneration, artificial propagation and establishment of nectar-producing plant species which is not included in this publication.

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APPENDIX 1

Characteristic	Rating	Conditions
Bee Appeal (BH)	4	- heavy foraging on all plants of same species
	3	- heavy foraging on some plants of same species
	2	- moderate foraging on all plants of same species
	1	- light foraging on all or some plants of same species
Nectar Secretion (NS)	3	- excellent nectar producer, often giving a surplus
	2	- good nectar producer, sometimes giving a surplus
	1	- fair nectar producer, rarely if ever giving a surplus
Plant Abundance (ABUN)	4	- large communities on uncultivated sites
	3	- large communities on cultivated sites
	2	- small communities on uncultivated and cultivated sites
	1	- scattered individuals or uncultivated or cultivated sites
Flowering (FLW)	2	- flowers annually
	1	- flowers once every two or three years
Competitiveness (COMP)	2	- natural regeneration by root suckers or by natural sowing or seed on unprepared sites
	1	- artificial regeneration by sowing or by planting on prepared sites

Table 2. Nectar-producing trees of Ontario

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
WILLOW FAMILY – *Salicaceae*											
Black willow	*Salix nigra* Marsh.	early nectar and pollen mid-April	A to F	large, up to 20 m, moderately hardy	lowlands, on river banks, wet flats and seasonally flooded swamps	4	2	2	1	*	light amber, mild flavor pleasant aroma
Peach-leaved willow	*Salix amygdaloides* Anderss.	nectar and pollen in early spring	A to E	medium, up to 24 m, moderately hardy	lowlands, flats, swamps and river banks	4	2	2	1	*	light amber, mild flavor pleasant aroma
Crack willow	*Salix fragilis* L.	excellent source of nectar and pollen	A to E	medium to large, up to 30 m, hardy	uplands and lowlands on tills, wet flats and river banks	no information					no information
White willow	*Salix alba* L.	early nectar and pollen in April	A to E	large, up to 23 m, hardy	wet flats, seasonally flooded swamps, river banks, rolling tills	4	2	1	1	2	light amber, mild flavor pleasant aroma
Shining willow	*Salix lucida* Muhlenb.	excellent source of early nectar and pollen	A to H	small, up to 9 m, extremely hardy	lowlands on wet flats, river banks, along lakes and on rocky shorelines	probably the same as for black willow					probably the same as for black willow
MAGNOLIA FAMILY – *Magnoliaceae*											
Tulip poplar	*Liriodendron tulipifera* L.	surplus of nectar and pollen in early July	A to D	large, up to 60 m, not hardy, except Lake Erie	uplands on tills, moraines and on well-drained alluvial deposits	4	3	2	1	2	very dark amber, strong flavor not choice quality
ROSE FAMILY — *Rosaceae*											
Wild apple	*Malus pumila* Mill.	fair nectar and pollen, late May	A to G	small, up to 12 m, moderately hardy	upland sites on tills, moraines and alluvial deposits	4	1	2	3	1	pale yellow or light amber, tends to granulate excellent aroma and flavor
Siberian crab	*Malus baccata* L.	fair nectar and pollen, late May	A to H	Small, up to 5 m, hardy	upland sites	4	1	1	1	2	pale yellow or light amber, tends to granulate excellent aroma and flavor
Hawthorn	*Crataegus spp.* L.	good nectar and pollen in June	A to F	small, up to 6 m, moderately hardy	uplands on clay tills	4	1	2	4	2	thick, rich, dark amber rich flavor, high quality
Mazzard cherry	*Prunus avium* L.	good nectar and pollen, mid-May	A to D	large, up to 31 m, somewhat tender	uplands on tills and moraines	4	1	2	3	1	no information

(Continued on page 8)

Table 2. Nectar-producing trees of Ontario *(continued)*

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
PULSE (LEGUME) FAMILY – *Leguminosae*											
Honey locust	*Gleditsia triacanthos* L. var. *elegantissima* – large and thornless var. *inermis* – large and almost thornless	minor nectar in late June	A to E	large, up to 28 m, moderately hardy	uplands, stony tills, moraines and eskers	4	1	1	1	2	no information
Redbud	*Cercis canadensis* L.	heavy nectar, not sufficiently abundant to supply surplus honey	A to C	small, up to 12 m, not hardy, except near Lakes Erie, Ontario, S. Huron	uplands on rich tills, and well-drained alluvial deposits	4	3	1	1	2	no information
Yellow wood	*Cladrastis lutea* (Michx.) Koch	heavy nectar, late June, insignificant contribution to honey crop in Ontario	A to D	Small, up to 15 m, frost-tender	uplands on till, moraines and drumlins	4	3	1	1	2	light amber strong, distinctive
Black locust	*Robinia pseudoacacia* L.	irregular nectar producer due to susceptibility to frost	A to F	large, up to 25 m, moderately hardy	uplands on stony till, moraines and on gravelly and sandy eskers	3	3	2	2	2	flavor water-white, heavy body; mild flavor pleasant aroma
Clammy locust	*Robinia viscosa* Venton	excellent, dependable nectar producer in latter half of June	A to D	small, up to 12 m	uplands on stony tills and moraines and on gravelly and sandy eskers	4	3	1	2	2	water-white, heavy body; mild flavor, pleasant aroma
RUE FAMILY – *Rutaceae*											
Korean evodia	*Evodia daniellii* (J. Benn) Hemst.	best nectar tree in Ontario in September	A to C	small, up to 6 m, not hardy except near Lakes Erie, St. Clair, S. Huron	uplands on tills and well-drained alluvial deposits	4	2	1	1	2	no information
QUASSIA FAMILY – *Simarubaceae*											
Tree-of-Heaven	*Ailanthus altissima* (Mill.) Swingle	fair nectar producer in late June	A to D	medium, up to 18 m	uplands on rocky ridges, stony tills and close to buildings	2	1	2	1	2	dirty green color, bad flavor

MAPLE FAMILY – *Aceraceae*											
Norway maple	*Acer platanoides* L.	nectar and pollen in early May	A to F	large, up to 28 m, moderately hardy	upland sites on tills and moraine deposits	4	2	1	2	2	pale amber green without much flavor or aroma
Hedge maple	*Acer campestre* L.	excellent nectar and pollen producer in mid-May	A to D	small, up to 15 m, not hardy except between Lakes Erie, Ontario, Huron	upland sites on well-drained flats and gentle rolling tills	4	3	1	1	2	light amber green, mild flavor, pleasant aroma
Sugar (Hard) maple	*Acer saccharum* Marsh	good nectar and pollen producer in early May	A to G	large, up to 40 m, hardy	upland sites	3	2	2	4	1	pale amber to greenish
Red maple	*Acer rubrum* L.	supplies early nectar and pollen in April	A to G	large, up to 28 m, hardy	along edge of swamps and on dry gravel and rocky knolls	2	2	2	4	2	pale amber to greenish without much flavor or aroma
Silver maple	*Acer saccharinum* L.	supplies early nectar and pollen in April	A to G	large, up to 30 m, northern strains are hardier than southern strains	lowlands: river banks, lake shores and swamps	2	2	2	4	2	pale amber to greenish without much flavor or aroma
BUCKEYE FAMILY – *Hippocastanaceae*											
Ohio buckeye	*Aesculus glabra* Willd.	consistent nectar and pollen producer in later half of May	A to F	medium, up to 12 m, hardy	uplands: deep tills and well-drained alluvial deposits	3	2	1	1	2	thick and heavy-bodied flavor not as good as basswood
Horse chestnut	*Aesculus hippocastanum* L.	moderate to good nectar and pollen producer in late May – early June	A to E	large, up to 30 m, moderately hardy	uplands, preferring tills and well-drained alluvial deposits	3	2	1	1	2	somewhat similar to that of Ohio buckeye, as bitter as quinine
Red horse chestnut	*Aesculus carnea* Hayne	dependable nectar producer in late May and early June	A to D	medium, up to 12 m, not hardy except near Lakes Erie, Ontario, S. Huron	uplands, prefers deep tills and well-drained alluvial deposits	4	2	1	1	1	similar to horse chestnut, bitter in flavor
LINDEN FAMILY – *Tiliceae*											
American basswood	*Tilia americana* L.	one of the best nectar and pollen producers of our native trees	A to G	large, up to 31 m, hardy	lowland and upland sites, along rivers and on top of hills	4	3	2	4	1	light somewhat greenish minty flavor characteristic aroma
Little leaf linden	*Tilia cordata Mill.*	some selections are excellent nectar and pollen producers	A to F	medium to large, up to 30 m, hardy	uplands of tills and well-drained alluvial deposits	4	3	*	*	*	minty flavor characteristic aroma
Large leaf linden	*Tilia platyphyllos* Scop	excellent nectar and pollen producer in late June and early July	A to G	large, up to 40 m, hardy	uplands of deep tills and well-drained alluvial deposits	4	3	1	1	2	light, smooth, somewhat greenish with a minty flavor, characteristic
BIGNONIA FAMILY – *Bignoniaceae*											
Indian catalpa	*Catalpa bignonioides* Walt.	some trees are excellent nectar and pollen producers	A to E	medium, up to 18 m, not hardy except between Lakes Erie, Ontario, Huron	uplands of deep tills and well-drained alluvial deposits	2	2	1	1	2	no information
Chinese catalpa	*Catalpa ovata G.* Don.	good nectar and pollen producer in July	A to D	small, up to 9 m, not hardy except between Lakes Erie, Ontario, Huron	uplands of deep tills and well-drained alluvial deposits	3	2	1	1	2	no information

Table 3. Nectar-producing shrubs of Ontario

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
WILLOW FAMILY – *Salicaceae* SHRUB WILLOWS											
Northern willow	*Salix bebbiana* Sarg	early nectar and pollen producer in April	A to H	tree-like, up to 8 m, extremely hardy	dry uplands on rocky sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Large pussy willow	*Salix* discolor Muhl	early nectar and pollen producer in April	A to H	large shrub, up to 8 m, hardy	fresh to seasonally flooded, on muck, sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Wood willow	*Salix rigida* Muhl	early nectar and pollen producer in April	A to G	medium shrub, up to 8 m, hardy	fresh to seasonally flooded, on muck, sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Slender willow	*Salix petiolaris* Anderss.	early nectar and pollen producer in April	A to G	medium shrub, up to 8 m, hardy	fresh to seasonally flooded, on muck, sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Japanese pussy willow	*Salix gracilistyla* Miq.	early nectar and pollen producer in April	A to G	medium shrub, up to 8 m, not hardy	fresh to wet sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Purple willow	*Salix purpurea* L.	early nectar and pollen producer in April	A to E	tall shrub, up to 8 m, hardy	fresh to wet sand, silt and clay loams	4	2	2	4	2	light amber, mild flavor, pleasant aroma
Golden glory willow	*Salix maccalliana* Rowlee	early nectar and pollen producer in April	G to H	yellow stemmed, up to 8 m, very hardy	wet to seasonally flooded on acid and alkaline soils	4	2	2	4	2	light amber, mild flavor, pleasant aroma
SAXIFRAGE FAMILY – *Saxifragaceae*											
Corny mock orange	*Philadelphus coronarius* L.	fair nectar producer in early June	A to E	umbrella shaped, up to 3 m, moderately hardy	uplands on tills and alluvial deposits	2	1	1	1	2	no information
Deutzia	*Deutzia gracilis* Siebold & Zucc.	fair nectar producer in late May	A to E	short, dense, up to 1 m, frost-tender	uplands on tills and well-drained alluvial deposits	4	1	1	1	2	no information
Golden currant	*Ribes aureum* Pursh.	good nectar producer in June and July	A to G	upright shrub, up to 1.8 m, hardy	uplands on tills, moraines and in locustrine deposits	4	2	1	1	2	no information

ROSE FAMILY – *Rosaceae*											
White meadow-sweet Smooth meadow-sweet	*Spirea alba* Du Roi. *Spirea latifolia* (Ait.) Borkh.	excellent nectar producers in August in lowland sites	D to G	erect shrub, up to 1.8 m, hardy	saturated flats and seasonally flooded swamps	4	1	2	2	2	no information
False spirea	*Sorbaria sorbifolia* (L.) A. Braun	good nectar producer in July and early August	A to F	small, erect shrub, up to 2 m, hardy perennial	uplands on tills and lacustrine deposits	4	2	2	2	2	no information
Red raspberry	*Rubus idaeus* L.	good nectar producer in June	A to H	up to 1.5 m or taller hardy biennial	lowland and upland sites on tills, moraines and lacustrine deposits	4	2	2	4	2	white to light amber light, delicate, and of superior quality
Black raspberry	*Rubus occidentalis* L.	good nectar producer in June	A to F	canes somewhat similar to red raspberry	uplands on tills, moraines and alluvial deposits	4	2	2	1	2	white and light amber light and delicate flavor, high quality
PULSE OR LEGUME FAMILY – *Leguminosae*											
Caragana (Siberian pea)	*Caragana arborescens* L & M	excellent nectar producer in June	A to G	large bush, up to 6 m, hardy	uplands on tills, moraines, and well-drained alluvial deposits	4	3	2	1	2	light and of good quality
False indigo	*Amorpha fruticosa* L.	fine nectar and pollen producer	A to F	tolerant shrub, up to 5 m, moderately hardy	upland and bottomlands on tills and alluvial deposits	4	2	1	1	2	no information
CASHEW FAMILY — *Anacardiaceae*											
Staghorn sumac	*Rhus typhina* L.	good nectar and pollen producer in early July	A to G	shrub or small tree, up to 10 m, moderately hardy	uplands on stony tills and moraines and on gravel and sand eskers	4	2	2	4	2	mild and of good quality
MAPLE FAMILY – *Aceraceae*											
Striped maple	*Acer pennsylvanicum* L.	reported as a source of nectar for bees in northern Ontario	A to H	shrub-like tree, up to 11 m, hardy	bottomlands and uplands which are constantly moist to wet	4	2	2	1	2	probably similar to that of other maples
Amur maple	*Acer ginnala* Maxim.	good nectar producer in early June	A to H	bush or small tree, up to 6 m, hardy	well-drained lowlands and moist uplands of till and alluvial deposits	4	2	2	1	2	probably pale amber to greenish, little flavor or aroma
BUCKTHORN FAMILY – *Rhamnaceae*											
Alder buckthorn	*Rhamnus frangula* L.	one of the longest flowering of our nectar producers (May-September)	A to E	large shrub, up to 3.7 m, moderately hardy	flats, poorly drained bottomland sites	4	2	2	2	2	no information

(Continued on page 12)

Table 3. Nectar-producing shrubs of Ontario *(continued)*

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
OLEASTER FAMILY – *Elaeagnaceae*											
Russian olive	*Elaeagnus angustifolia* L.	moderate nectar producer in June	A to F	shrub or small tree, up to 9 m, moderately hardy	uplands on tills, eskers and sand plains	3	2	1	1	2	no information
HEATH FAMILY – *Ericaceae*											
Lowbush blueberry	*Vaccinium angustifolium* Ait.	valuable for fruit and is a source of nectar	E to H	dwarf, depressed bush, about 30 cm	dry sands and peats and in shallow rocky uplands of granite origin	no record of its nectar potential					no information
OLIVE FAMILY – *Oleaceae*											
Japanese lilac	*Syringa reticulata* (Blume) Hara	good nectar and pollen producer in latter half of June	A to G	bush or small tree up to 9 m, hardy	uplands on moist tills and well-drained lacustrine deposits	4	2	2	1	2	no information
Amur privet	*Ligustrum amurense* Carriere	good nectar producer	A to E	large shrub up to 4.5 m, moderately hardy	uplands on tills and well-drained alluvial deposits	4	2	1	1	2	very dark; rotten flavor which can be eliminated by blending with other honey
HONEYSUCKLE FAMILY – *Caprifoliaceae*											
Bush honeysuckle	*Diervilla lonicera* Mill.	good nectar producer in northwestern Ontario	E to H	low-spreading bush up to 1 m, hardy	uplands on tills, eskers and on granitic ridges	4	2	2	2	2	no information
Honeysuckle	*Lonicera tatarica* L.	good nectar producer in mid-May to early June	A to E and H	bush up to 3 m, hardy	uplands on tills, moraines and well-drained lacustrine deposits	4	2	2	1	2	no information
Beauty bush	*Kolkwitzia amabilis* Greabn.	excellent nectar producer in June; not a heavy honey producer	A to G	dense bush up to 4.5 m, moderately hardy	uplands on tills, moraines and well-drained lacustrine deposits	4	3	1	1	2	no information
Indian currant	*Symphoricarpos orbiculatus* Moench.	excellent nectar source in July and August	A to F	dense, bushy shrub up to 2 m, moderately hardy	uplands on tills, moraines and on well-drained lacustrine deposits	4	2	2	1	2	light and of excellent flavor

Table 4. Nectar-producing herbs of Ontario

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
BUCKWHEAT FAMILY – *Polygonaceae*											
Buckwheat	*Fagopyrum esculentum* Moench	excellent nectar producer	A to G	leafy succulent stems up to 1 m, hardy annual	uplands on tills	4	3	1	3	2	dark and thick with a strong flavor; crystalizes with coarse crystal
Japanese knotweed	*Polgonum cuspidatum* Siebold and Zucc.	good nectar plant in August to early September	A to E	smooth, jointed stems up to 25 m; moderately hardy perennial	uplands on tills, moraines and eskers	4	2	2	2	2	quantity, quality and color of honey produced from knotweed varies
PINK FAMILY – *Caryophyllaceae*											
Bladder campion	*Silene cucubalus* Wibel	fair nectar producer	A to G	many ascending stems up to 60 cm; moderately hardy perennial	uplands	2	1	2	3	2	no information
MUSTARD FAMILY — *Cruciferae*											
Wild mustard	*Brassica arvensis* (L.) Rabenh	if abundant is an excellent source of nectar	A to G	single stem up to 1 m, hardy annual	uplands, preferring well-drained tills and lacustrine deposits	4	2	2	3	2	white and has mild flavor
Canola (Rape)	*Brassica napus* L.	chief source of nectar for some bee keepers in western Canada	A to H	smooth, leafy stem up to 60 cm, hardy annual	uplands on tills and well-drained lacustrine deposits	4	2	1	3	2	very white, mild flavor very high in glucose rapid granulation
PULSE (LEGUME) FAMILY – *Leguminosae*											
Alsike clover	*Trifolium hybridum* L.	heavy nectar producer in June	A to H	erect, leafy stems up to 61 cm, hardy perennial	uplands on fresh tills and lacustrine deposits	4	3	2	3	2	white, mild with an excellent aroma and of good quality
White dutch clover Ladino clover	*Trifolium repens* L. – dwarf form *Trifolium repens* L. – giant form var. *lodigense Hort*	heavy nectar producers in July	A to G	creeping stem above ground, up to 60 cm, hardy perennials	uplands on tills and lacustrine deposits	4	3	2	4	2	white, mild and of good quality
Red clover	*Trifolium pratense* L.	excellent nectar in June to mid-July	A to H	ascending stems, hardy biennial	well-drained tills and lacustrine deposits	4	3	1	3	1	white to amber, slightly stronger flavor than honey from sweet clover; granulate
White sweet clover Hubam sweet clover Yellow sweet clover	*Melilotus alba* Desr. *Melilotus alba* var. *annua* *Melilotus officinalis* L.	one of the best nectar producers in Ontario	A to H	long, branching stems up to 3 m; hardy annual and biennial varieties	uplands on tills, moraines and eskers	4	3	2	4	2	white, mild, medium body, slightly spicy in flavor, slow to granulate
Alfalfa	*Medicago sativa* L.	excellent nectar producer	A to H	glabrous stems up to 1 m, hardy perennial	uplands on well-drained tills	4	3	2	4	2	white to amber, slightly stronger flavor than honey from clovers
Birdsfoot trefoil	*Lotus corniculatus* L.	good nectar producer in June to August	A to H	spreads in clumps, leafy up to 60 cm, hardy perennial		4	2	2	4	2	more yellow than that of alsike clover, good quality
Common vetch Spring vetch	*Vicia cracca* L. *Vicia sativa* L.	fair nectar producers in July and early August	A to H	trailing leafy stems up to 1 m; hardy annual or biennial	uplands on tills, moraines and lacustrine deposits	2	1	2	2	1	flavor is stronger than that of clovers

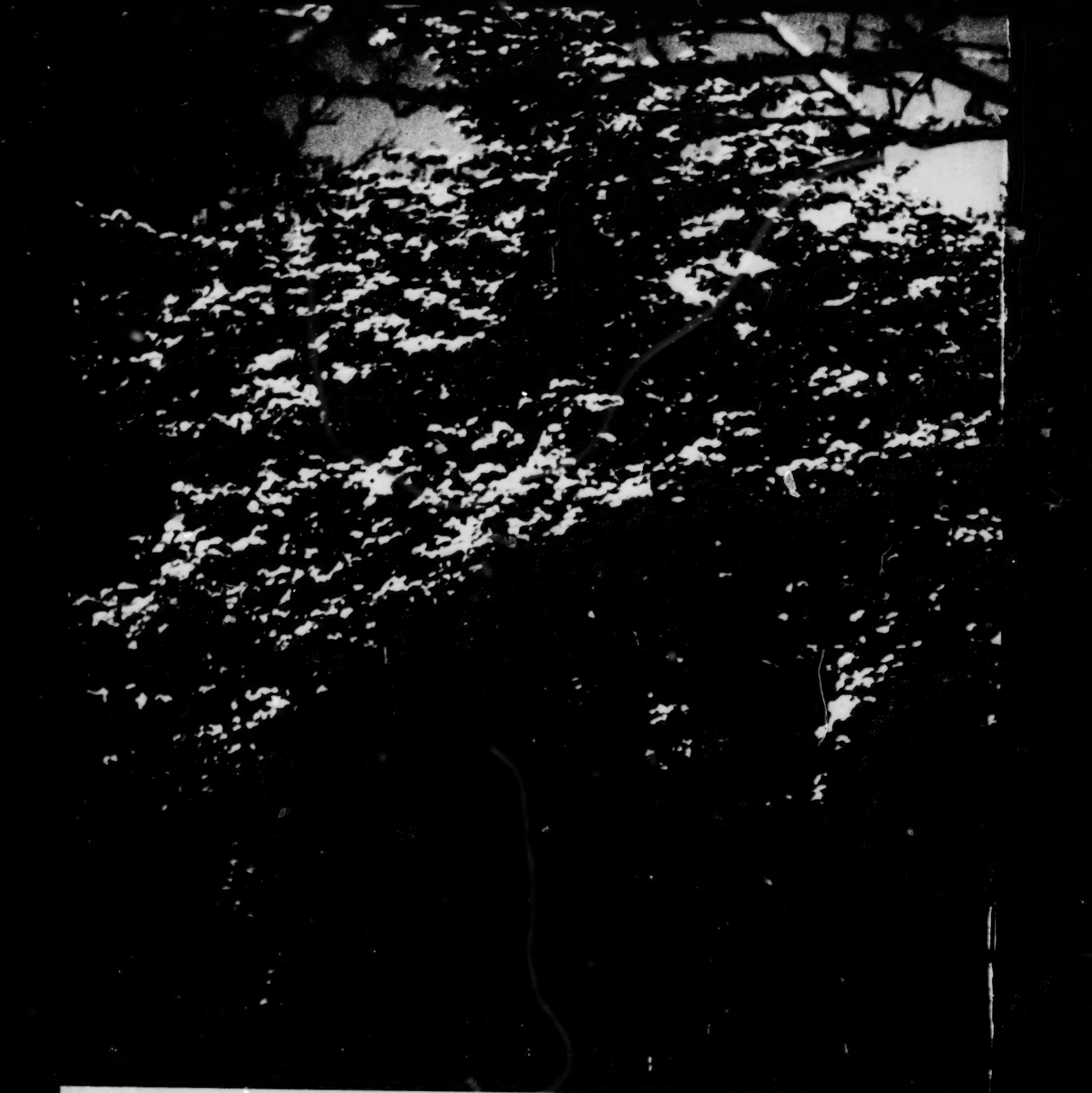
(Continued on page 14)

Table 4. Nectar-producing herbs of Ontario *(continued)*

Common Name	Latin Name	Utility	Climatic Zones (Figure 1)	Botanical Features	Site Features	Honey Plant Rating** BH	NS	COMP	ABUN	FLW	Honey Characteristics
GERANIUM FAMILY — *Geraniaceae*											
Sweet geranium	*Geranium pratense* L.	excellent nectar producer	A to E	multi-stemmed, up to 45 cm; moderately hardy perennial	uplands on fresh tills and well-drained lacustrine deposits	4	3	2	1	2	no information
TOUCH-ME-NOT FAMILY — *Balsaminaceae*											
Jewelweed	*Impatiens pallida* Nutt.	good nectar and pollen producer in August to early September	A to H	smooth, branched stems up to 2 m, hardy annual	lowlands on wet, saturated tills and in seasonally flooded swamps	4	2	2	4	2	light and sweet
LOOSESTRIFE FAMILY – *Lythraceae*											
Purple loosestrife	*Lythrum salicaria* L.	potential source of nectar during July and August	A to G	tall, downy-like stem up to 2 m, hardy perennial	lowlands along rivers, ditches, lakes and swamps	4	2	2	4	2	ill-tasting, greenish, mixed with other honeys its bad taste is diluted
EVENING PRIMROSE FAMILY – *Onagraceae*											
Fireweed or Willow herb	*Epilobium angustifolium* L.	a major honey plant in northern Canada	F to H D and E	single stem, erect smooth hardy perennial	uplands on tills, moraines and eskers	4	3	2	4	2	water white, very mild and of good quality
MILKWEED FAMILY – *Asclepidaceae*											
Swamp milkweed	*Asclepias incarnata* L.	important nectar plant in July and early August	A to G	single or multi-stemmed up to 1.2 m, hardy perennial	flats, swamps, shore lines and river banks	4	3	2	2	2	probably similar to that of common milkweed
Common milkweed	*Asclepias syriaca* L.	heavy yield of nectar in July and early August	A to E	single, coarse stem up to 2 m; moderately hardy perennial	uplands on tills, moraines, eskers and well-drained lacustrine deposits	4	3	2	3	2	light of good quality may take years to granulate
BORAGE FAMILY — *Boraginaceae*											
Blue weed	*Echium vulgare* L.	one of the best nectar producers in southern Ontario in June, July, and August	A to E	stiff, erect stems up to 1 m; moderately hardy biennial	dry uplands of tills, moraines and eskers	4	3	2	4	2	white to light golden delicate flavor
VERVAIN FAMILY — *Verbenaceae*											
Blue vervain	*Verbena hastata* L.	good nectar producer from mid-July to mid-August	A to E	erect, stiff stems up to 1.5 m; moderately hardy perennial	lowlands on wet to saturated lacustrine deposits	4	2	2	4	2	dark in color, pleasant flavor
MINT FAMILY — *Labiatae*											
Marjoram	*Origanum vulgare* L.	good nectar producer in July and August in some parts of southern Ontario	A to E	upright four-sided stems up to 75 cm; moderately hardy perennial	uplands on tills	4	2	2	4	2	high quality, fine flavor and aroma

COMPOSITE FAMILY – *Compositae*

Joe-Pye-Weed	*Eupatorium maculatum* L.	good nectar producer in southern and northern Ontario August and September	A to H	erect, sticky stems up to 1.9 m, hardy perennial	wet to seasonally flooded	4	2	2	4	2	light amber, strong flavor
Goldenrod	*Solidago spp.* L.	excellent nectar and pollen producers; mainstay of the late summer flow in southern Ontario	A to H	erect, stiff, slender stems, hardy perennial	lowlands and uplands on tills, moraines, eskers and lacustrine deposits	4	3	2	4	2	white, golden yellow or amber with a strong flavor and aroma
New England aster	*Aster novae-andiae* L.	fair nectar and pollen producer in late August and September	A to H	coarse, hairy stems up to 2 m; moderately hardy perennial	uplands and lowlands on tills and lacustrine deposits	4	1	2	2	2	no information
White upland aster	*Aster ptarmicoides* T & G	fair nectar producer in late August and September	A to E	leafy, smooth stems up to 60 cm: moderately hardy perennial	calcareous uplands on tills and well-drained lacustrine deposits	4	1	2	4	2	no information
Common sunflower	*Helianthus annuus* L.	fair nectar and excellent pollen producer in July and August	A to F	erect, branched stems up to 3.5 m, hardy annual	uplands on tills and well-drained lacustrine deposits	4	2	2	3	2	light, very sweet and of good flavor
Scotch thistle	*Onopordum acanthium* L.	fair nectar and pollen source	A to E	coarse, single-stemmed up to 2 m; moderately hardy perennial	uplands mainly on shallow tills and lacustrine deposits	4	1	2	1	1	no information
Knapweeds Star-thistle Spotted knapweed Common knapweed	*Centaurea* L. *Centaurea calcitrapa* L. *Centaurea maculosa* Lam. *Centaurea jacea* L.	good nectar producers from July to September	A to E	pubescent, wiry stems, moderately hardy perennials	uplands on stony, gravelly tills, moraines and eskers shallow calcareous flats	4	2	2	4	2	light amber and thin distinctive flavor
Dandelion	*Taraxacum officinale* Wiggers	one of the best nectar and pollen plants in Ontario, May and June	A to H	grows close to ground hardy perennial	lowlands and uplands on tills, moraines and alluvial deposits	4	1	2	4	2	yellow with a sharp flavor and pronounced aroma, crystallizes readily
Perennial sow-thistle	*Sonchus arvensis* L.	produces a rather vile tasting honey in July to early August	A to H	single, smooth stem, hardy perennial	uplands of tills, moraines, lacustrine and alluvial deposits	4	1	2	2	2	amber, vile taste which disappears when mixed with honey from other sources
Annual sow-thistle	*Sonchus oleraceus* L.	supplies some nectar in July and early August	A to H	single, hairy stem up to 1 m, hardy annual	uplands on tills and well-drained lacustrine and alluvial deposits	4	1	2	2	2	no information, but quality is probably similar to that of perennial sow-thistle
Yellow hawkweed Devil's paintbrush	*Hieracium vulgatum* Fries *Hieracium aurantiscum* L.	fair nectar and pollen producers in latter half of May early June	A to F	hairy, flowering stems up to 60 cm; moderately hardy perennial	uplands on deep and alluvial deposits	1	1	2	4	2	honey is greenish



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